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3 COLOR SENSOR

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5 ABSTRACT OF THE DISCLOSURE

6 A color sensor for generating color information defining
7 colors of an image includes an input section, a color processing
8 section, a color comparison section, a color boundary processing
9 section and a memory processing section. The input section
10 includes an array of transducer pairs, each pair defining one of
11 a plurality of pixels. Each transducer pair generates two peak
12 outputs, one for the selected color of each transducer of the
13 pair. A plurality of pixel processors in the color processing
14 section each receives the outputs from one of the transducer
15 pairs. The color processing section generates a color feature
16 vector representative of the brightness of the light incident on
17 the pixels and a color value corresponding to the ratio of
18 outputs from the transducers comprising the transducer pair
19 associated with the pixels. The color boundary processing
20 section generates a plurality of color boundary feature vectors,
21 each representing the difference between the color value for a
22 pixel and its neighboring pixels. The color comparator processor
23 measures and compares the reflective color of two objects and the
24 memory processor section provides a process to recognize a color,
25 a boundary of color and/or a comparison of colors.